Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (canceled)

11. (canceled)

12. (canceled)

13. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (new) A gateway apparatus between a client computer requesting a file access and a file server executing file access processes according to a received file access request from the client computer, comprising:

a first type protocol processing unit which is configured to receive a first type file access request according to the first type protocol from the client computer and respond to the received first type file access request, wherein a first type file system according to the first type protocol is a directory structural file system and the first type file access request includes a path ID indicating a directory including a target file and a first type file ID indicating the target file, and the first type file ID is a unique ID in the directory;

a second type file system access unit which is configured to receive a file access request from the first type protocol processing unit and issue a second type file access request to a second type file system, wherein the second type file access request includes a second type file ID indicating the target file, and the second type file ID is a unique ID in the second type file system and assigned to the target file by the second type file system; and

a directory management unit which is configured to manage a correspondence between a directory structure of the first type file system and a second type file ID of the second type file system, wherein the second type file ID used by the second type file system access unit is specified by the directory management unit based on the first type file ID included in the first type file access request.

25. (new) The gateway apparatus according to claim 24, wherein the first type file system is managed by one specific file server, and the second type file system is a

distributed file system managed by plural file servers and files of the second type file system are distributed over the plural file servers.

26. (new) The gateway apparatus according to claim 25, wherein the first type protocol processing unit is configured to receive a first type file access request according to NFS, CIFS or both.

27. (new) The gateway apparatus according to claim 24, wherein the first type protocol processing unit is configured to register a path ID and a first type file ID of a new file created according to the first type protocol to the directory management unit.

28. (new) The gateway apparatus according to claim 24, wherein the gateway apparatus is configured to register a path ID, a first type file ID, and a second type file ID of a new file, which is created according to the second type protocol, to the directory management unit.

29. (new) The gateway apparatus according to claim 24, wherein the correspondence between the directory structure of the first type file system and the second type file ID of the second type file system managed by the directory management unit is different from a correspondence between a directory structure of the first type file system and the second type file ID of the second type file system managed by another directory management unit of another gateway apparatus.

30. (new) The gateway apparatus according to claim 29, wherein the gateway apparatus is configured to provide a different structure of the first type file system from the another gateway apparatus with the client computer based on the correspondence managed by the directory management unit.

31. (new) The gateway apparatus according to claim 24, wherein when file data is updated in the second type file system, a new second type file ID, which is different from a second type file ID of the file before updating, is assigned to the updated file.

32. (new) The gateway apparatus according to claim 31, wherein each second type file ID has an ID indicating a file group including a file and other generation files associated with the file.

33. (new) The gateway apparatus according to claim 32, wherein each second type file ID further has an ID indicating a generation of the file.

34. (new) The gateway apparatus according to claim 31, wherein the gateway apparatus is configured to access the specific generation file of the second type file system based on the first type file access request according to the first type protocol.

35. (new) The gateway apparatus according to claim 34, wherein the gateway apparatus is configured to access the latest generation file of the second type file system based on the first type file access request according to the first type protocol.

36. (new) The gateway apparatus according to claim 31, wherein when the first type protocol processing unit receives an update request for a file, the second type file system access unit is configured to create new generation of the file for the second type file system.

37. (new) The gateway apparatus according to claim 36, wherein the first type protocol processing unit is configured to recognize a series of update requests received from the client computer, and the second type file system access unit is configured to create one new generation of the file for the series of update requests.

38. (new) The gateway apparatus according to claim 37, wherein the first type protocol processing unit is configured to recognize the end of the series of update requests based on the file close request received from the client computer.

39. (new) The gateway apparatus according to claim 37, wherein the first type protocol processing unit is configured to recognize the end of the series of update requests based on time interval between one update request and the next update request.

40. A computer readable storage medium having a computer program for a gateway apparatus to manage file access between a client computer requesting a file access and a file server executing file access processes according to a received file access request from the client computer, the computer program comprising:

code for a first type protocol processing unit to receive a first type file access request according to the first type protocol from the client computer and respond to the received first type file access request, wherein a first type file system according to the first type protocol is a directory structural file system and the first type file access request includes a path ID indicating a directory including a target file and a first type file ID indicating the target file, and the first type file ID is a unique ID in the directory;

code for a second type file system access unit to receive a file access request from the first type protocol processing unit and issue a second type file access request to a second type file system, wherein the second type file access request includes a second type file ID indicating the target file, and the second type file ID is a unique ID in the second type file system and assigned to the target file by the second type file system; and

code for a directory management unit to manage a correspondence between a directory structure of the first type file system and a second type file ID of the second type file system, wherein the second type file ID used by the second type file system access unit is specified by the directory management unit based on the first type file ID included in the first type file access request.

41. (new) The computer readable storage medium according to claim 40, wherein the first type file system is managed by one specific file server, and the second type file system is a distributed file system managed by plural file servers and files of the second type file system are distributed over the plural file servers.

42. (new) The computer readable storage medium according to claim 41, further comprising code for the first type protocol processing unit to receive a first type file access request according to NFS, CIFS or both.

43. (new) The computer readable storage medium according to claim 40, further comprising code for the first type protocol processing unit to register a path ID and a

first type file ID of a new file created according to the first type protocol to the directory management unit.

44. (new) The computer readable storage medium according to claim 40, further comprising code for the gateway apparatus to register a path ID, a first type file ID, and a second type file ID of a new file, which is created according to the second type protocol, to the directory management unit.

45. (new) The computer readable storage medium according to claim 40, wherein the correspondence between the directory structure of the first type file system and the second type file ID of the second type file system managed by the directory management unit is different from a correspondence between a directory structure of the first type file system and the second type file ID of the second type file system managed by another directory management unit of another gateway apparatus.

46. (new) The computer readable storage medium according to claim 45, further comprising code for the gateway apparatus to provide a different structure of the first type file system from the another gateway apparatus with the client computer based on the correspondence managed by the directory management unit.

47. (new) The computer readable storage medium according to claim 40, further comprising code for, when file data is updated in the second type file system, assigning to the updated file a new second type file ID, which is different from a second type file ID of the file before updating.

48. (new) The computer readable storage medium according to claim 47, wherein each second type file ID has an ID indicating a file group including a file and other generation files associated with the file.

49. (new) The computer readable storage medium according to claim 48, wherein each second type file ID further has an ID indicating a generation of the file.

50. (new) The computer readable storage medium according to claim 47, further comprising code for the gateway apparatus to access the specific generation file of the

second type file system based on the first type file access request according to the first type protocol.

51. (new) The computer readable storage medium according to claim 50, further comprising code for the gateway apparatus to access the latest generation file of the second type file system based on the first type file access request according to the first type protocol.

52. (new) The computer readable storage medium according to claim 47, further comprising code for, when the first type protocol processing unit receives an update request for a file, the second type file system access unit to create new generation of the file for the second type file system.

53. (new) The computer readable storage medium according to claim 52, further comprising code for the first type protocol processing unit to recognize a series of update requests received from the client computer, and the second type file system access unit to create one new generation of the file for the series of update requests.

54. (new) The computer readable storage medium according to claim 53, further comprising code for the first type protocol processing unit to recognize the end of the series of update requests based on the file close request received from the client computer.

55. (new) The computer readable storage medium according to claim 53, further comprising code for the first type protocol processing unit to recognize the end of the series of update requests based on time interval between one update request and the next update request.